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SHORT COMMUNICATION

An update on *Penthetria funebris* (Diptera: Bibionidae) in Romania

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Abstract

We summarized the known data on the distribution of *Penthetria funebris* Meigen, 1804 in Romania, based on old and two new records. We illustrate the male habitus, brachypterous wing, head and terminalia.

Keywords

Bibionoidea, Bibionomorpha, Europe, Insecta, March flies.

There are 36 *Penthetria* species distributed in the Neotropical, Oriental, Nearctic and Palearctic regions, and only 2 species are known from Europe, namely *Penthetria funebris* Meigen, 1804 and *Penthetria heteroptera* (Say, 1823) (Fitzgerald 2021). The latter was recorded only once in Germany, and probably accidentally introduced from the Nearctic region (Fitzgerald and Werner 2004). In the recent world catalogue of *Penthetria* Meigen published by Fitzgerald (2021), *Penthetria funebris* is recorded from Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Latvia, Lithuania, Poland, Russia, Sweden, Switzerland and Slovakia, but Romania is not mentioned (the species is also not mentioned from Italy and Netherlands (Dahl et al. 1995; Zeegers 2001)). However, the species was recorded from Romania in 1967, 1968 and 1969, under the name of *Penthetria holosericea* Meigen, 1818 (Mărgărit

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1972, Iacob 1980) and Fitzgerald and Werner (2004) also listed the species from Romania. The species was known so far in Romania only from 3 locations: Argeș county: Câmpulung – Valea Sf. Gheorghe; Poienarii de Muscel – Arseneşti village; Prahova county: Sinaia – Valea lui Bogdan (Mărgărit 1972, Iacob 1980).

Here we provide 2 new additional records: ROMANIA, 2 ♂; Covasna county/Oituz (near); 46.0655°N/26.3825°E; 650 m alt.; 12 May 2021; Pintilioaie Alexandru-Mihai leg.; 1 ♀; Cluj county/Liteni, near Liteni Fortress; 46.6098°N/23.4264°E; 735 m alt.; 27 April 2018; Kolcsár Levente-Péter leg. The two male specimens are deposited in Private Collection of L.-P. Kolcsár (CKLP). An up-to-date map regarding the known distribution of this species in Romania and Europe is presented in Fig. 1.

Penthetria funebris is the only species of the genus in which males have brachypterous wings (Figs 2A, 3A), so only the females are able to fly, having normally developed wings (Fitzgerald 2021). The male head is illustrated in Fig 2B and the male terminalia in Fig. 3B–C. The larvae are saprophagous and represent an important species in the cycle of nutrients from the forest litter, being known to consume around 40% of annual litter fall (Frouz et al. 2015). The larvae can be found in alder litter in deciduoud forests, from around 10 m a.s.l. (Salmela and Vartija 2007) to 900 m alt. (Mărgărit 1972). The adults are active usually from mid-April to mid-May and have a life span shorter than one month (Frouz et al. 2015). In the adult stage, the species

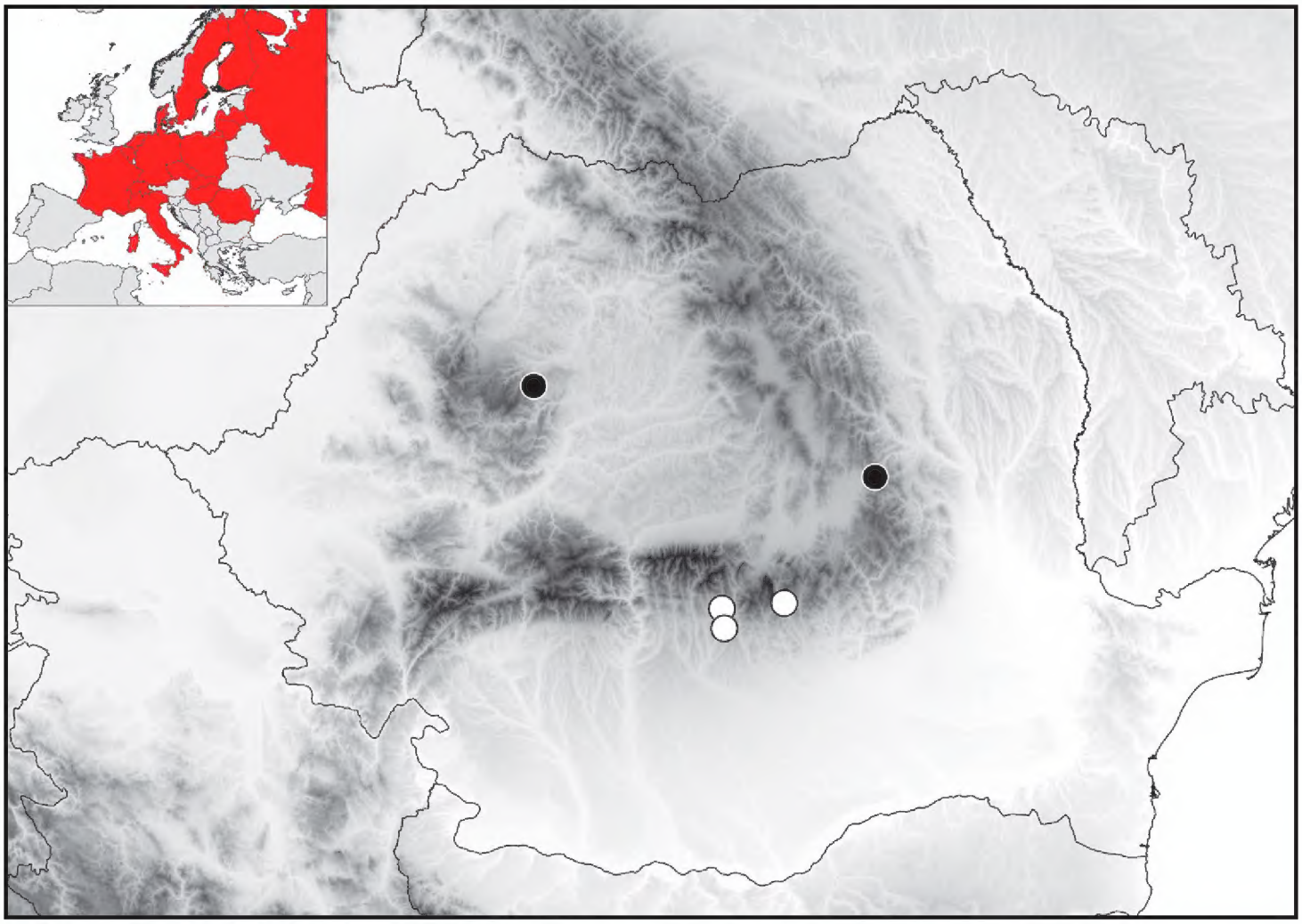

Figure 1. Known distribution of *Penthetria funebris* in Europe and in Romania: white dots -records from literature data, black dots - new records.

Figure 2. Male of *Penthetria funebris*. **A** Habitus; **B** Head dorsal view. Scale bars: **A** - 2 mm, **B** - 1 mm.

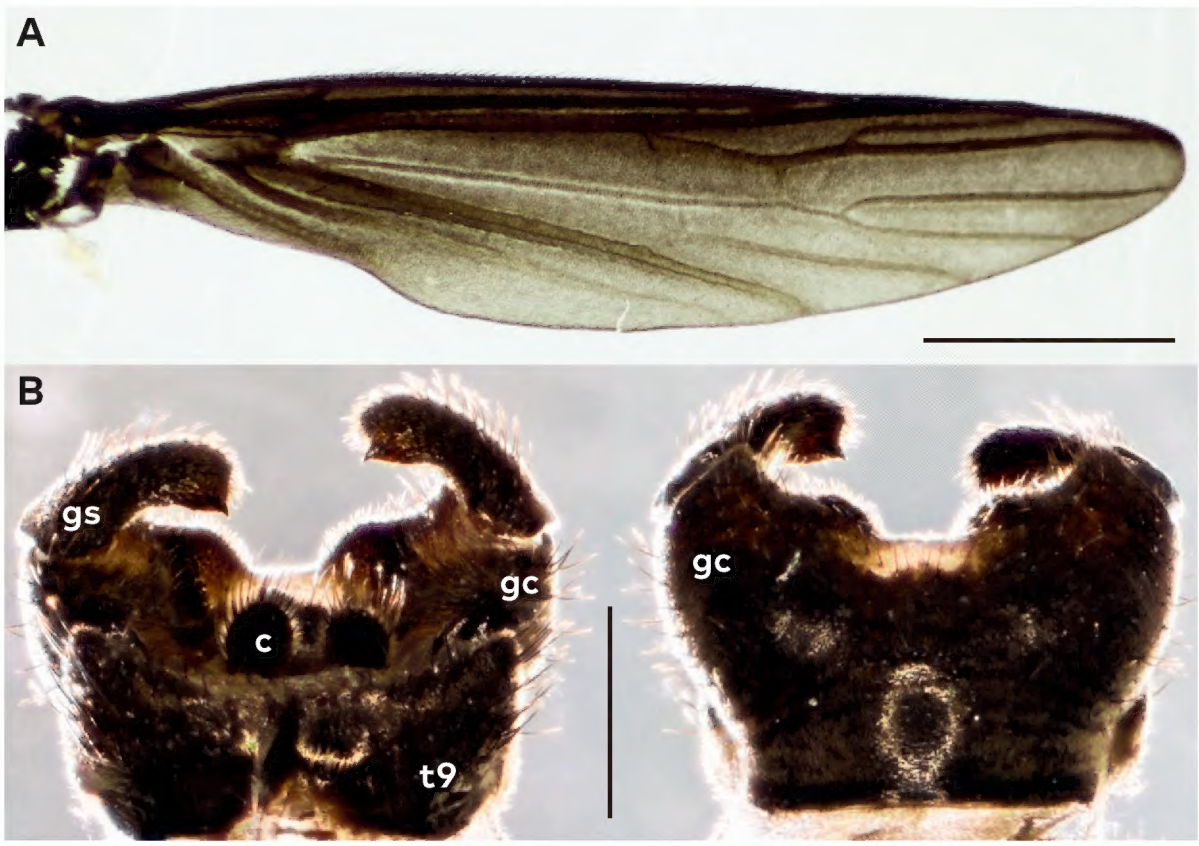

Figure 3. Male of *Penthetria funebris*. **A** Right wing; **B** Terminalia, dorsal view; **C** Terminalia, ventral view. Abbreviations: c - cerci, gc - gonocoxite, gs - gonostylus, t9 - tergite nine. Scale bars: **A** - 1 mm, **B**, **C** - 0.5 mm.

is probably not feeding (Fitzgerald 2021). The females lay approximately 130 eggs (Fitzgerald 2021) probably in small cracks on the surface of the soil (unlike other European Bibionidae, *Penthetria* do not have the fore tibia modified to dig a hole in the substrate for laying eggs) (Fitzgerald 2021).

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